

NUTS-AND-BOLTS LOOK AT 3D PRINTING IN LIBRARIES PART 2: MY LIBRARY'S FUTURE

**What is a MakerSpace and
Deciding If Your Patrons
Would Benefit From a 3D
Printer**

Presented May 27, 2014 By:
Paula & Paul Waak



Overview


- Recap from Part 1 About 3D Printers
- What Makes MakerSpace
- Public & Academic Library MakerSpaces
- Do All MakerSpaces Have a 3D Printer?

----Questions----












- Selecting the Right 3D Printer(s)
- Funding Options for 3D Printers
- Administrative Side of 3D Printing
- Lessons Learned & Great Experiences

Recap from Part 1 About 3D Printer:

<http://www.youtube.com/playlist?list=PLiW3yjMHQYUq6PhUmX1JEYPfNQkDNRp8B>

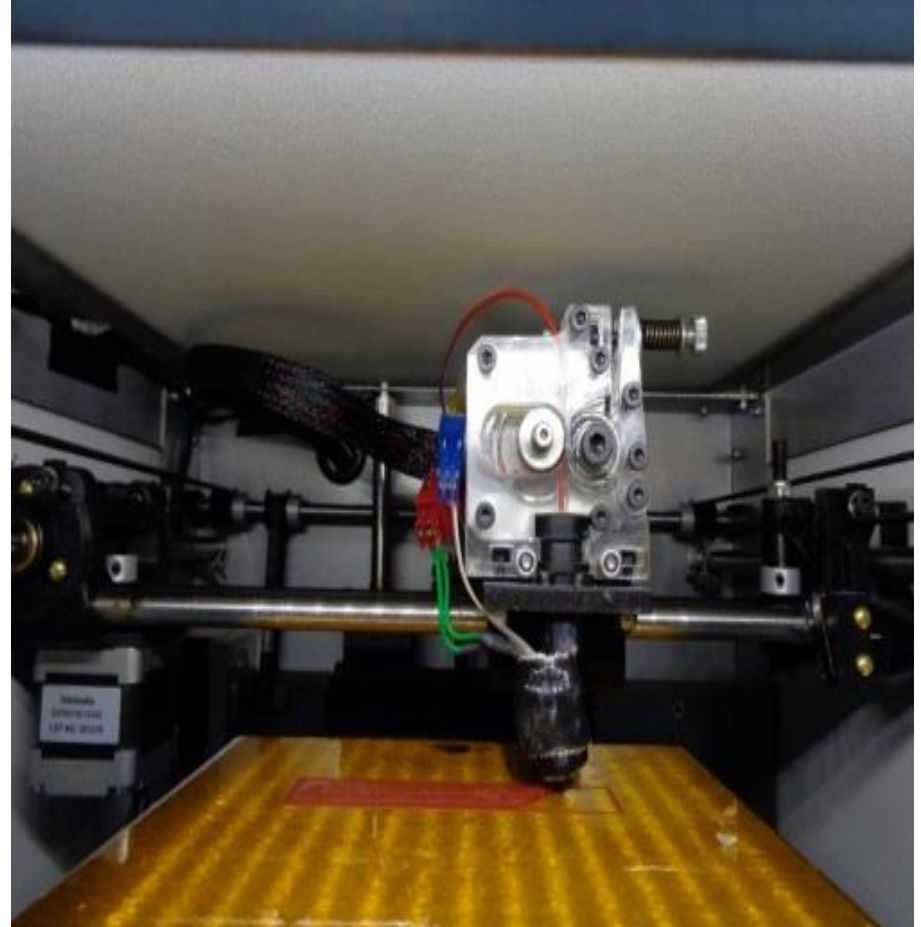
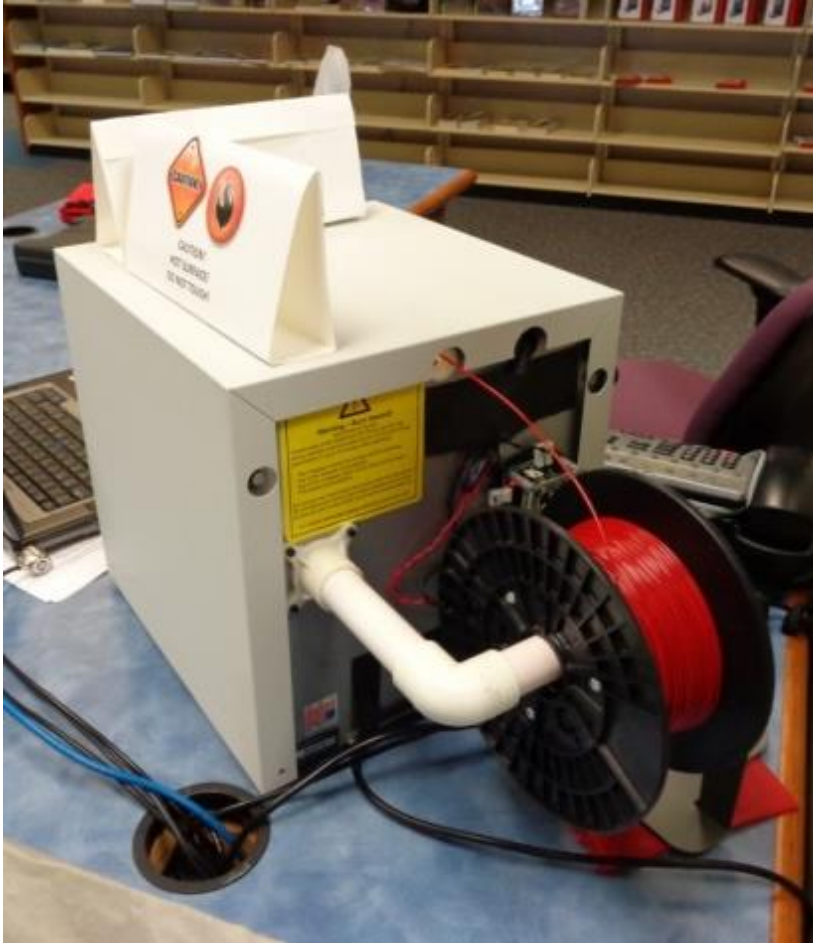


3D Printer Presentation
by philiaamare • 11 videos • 171 views • 1 like • 41 minutes
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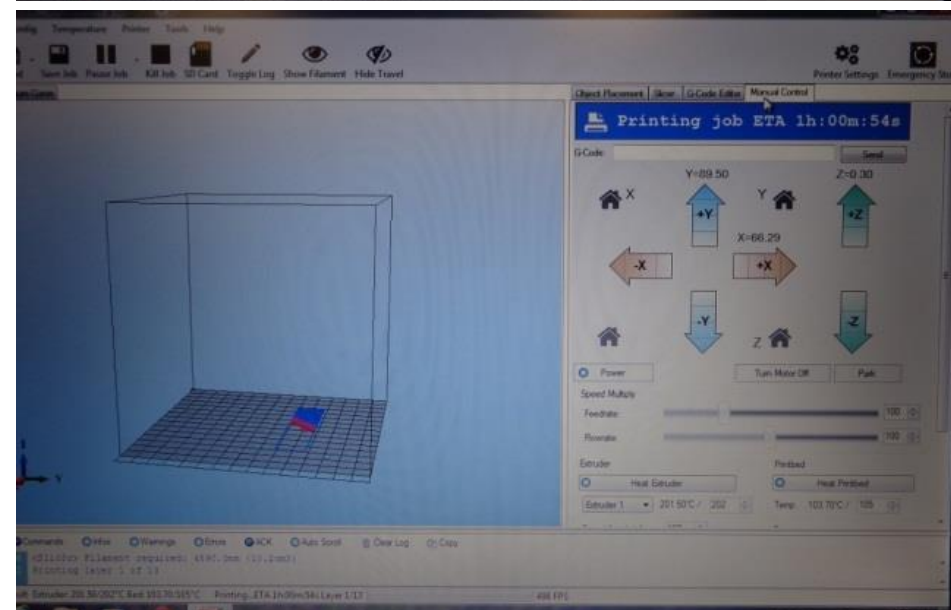
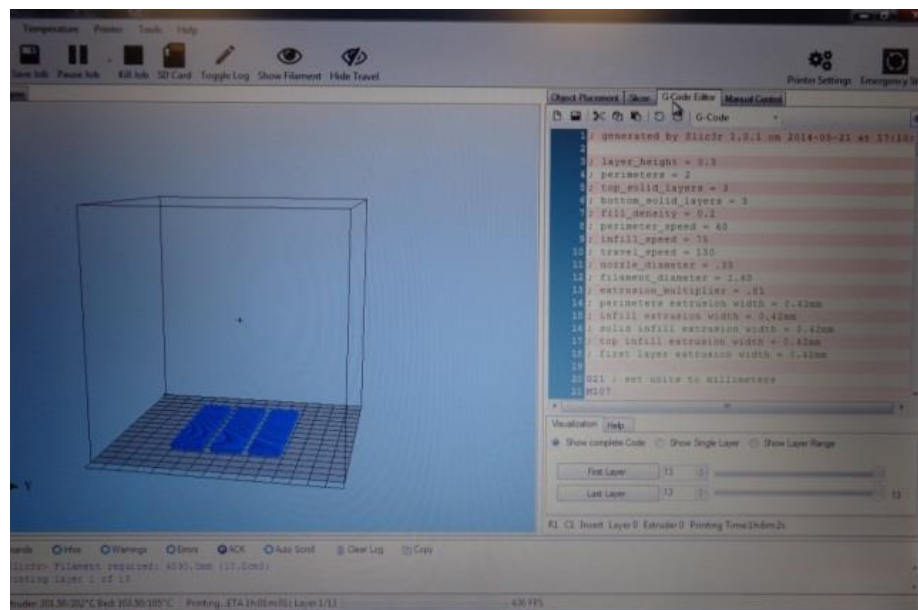
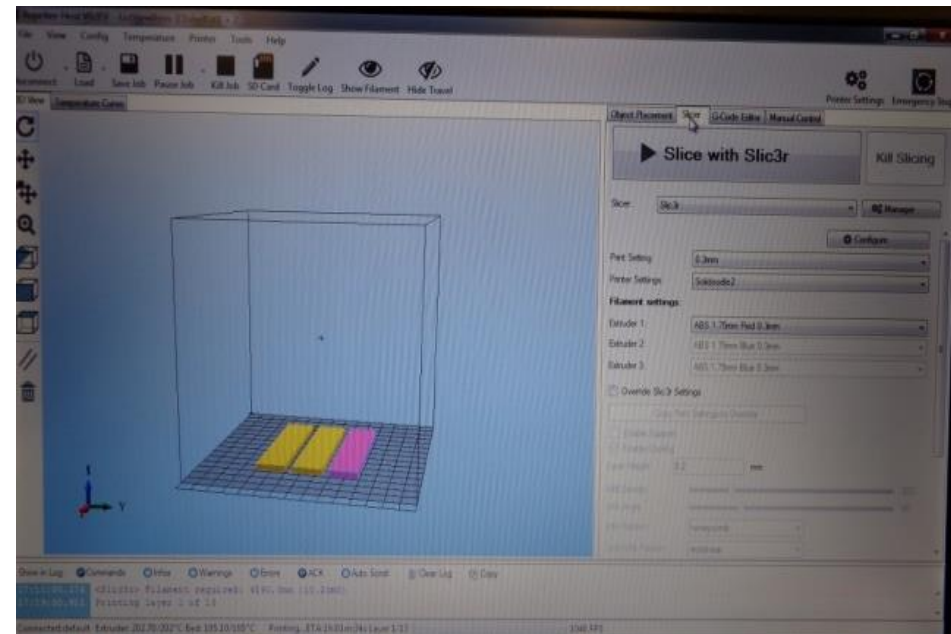
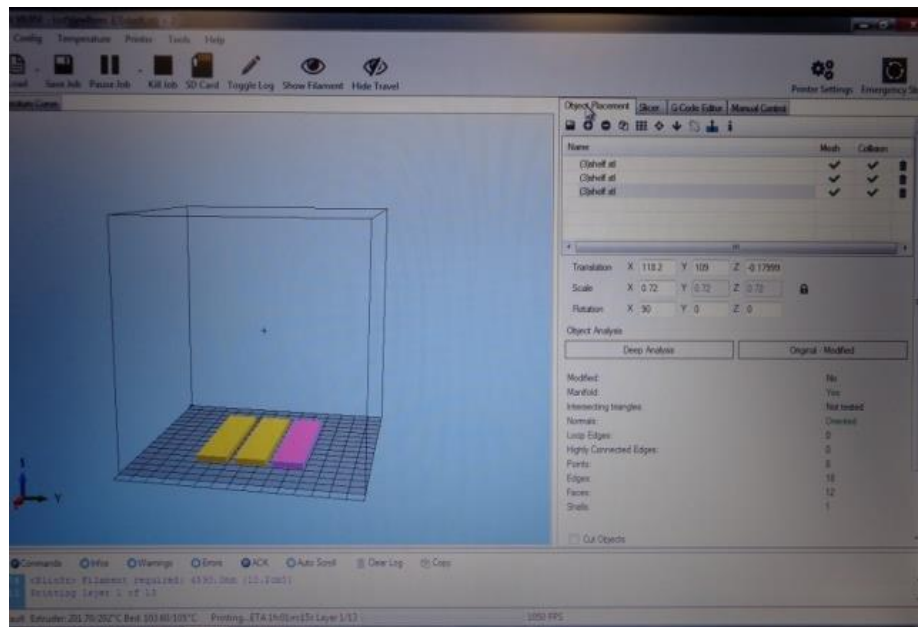
-  3D Printing at the University of Arizona
-  Future of Construction Process: 3D Concrete Printing
-  3-D food printer makes dessert
-  3D printer makes live body parts
-  ParaNorman Feaurette: Faces of Paranorman
-  Video: Giant Chinese 3D printer builds 10 houses in just 1 day
-  3D Printed Magic Arms
-  3D printers an Stem Cells create ear that can hear - real life hearing aid
-  Nike Vapor HyperAgility Cleat
-  Recreating Dinosaur Fossils with 3D Printing
-  A Man with a Scan - Ben Heck's 3D Scanner

- Around since the 1980s
- Consumer Use in 2005
- Rapid Evolution
 - Affordability
 - Mainstream Media
 - Available to youth and up

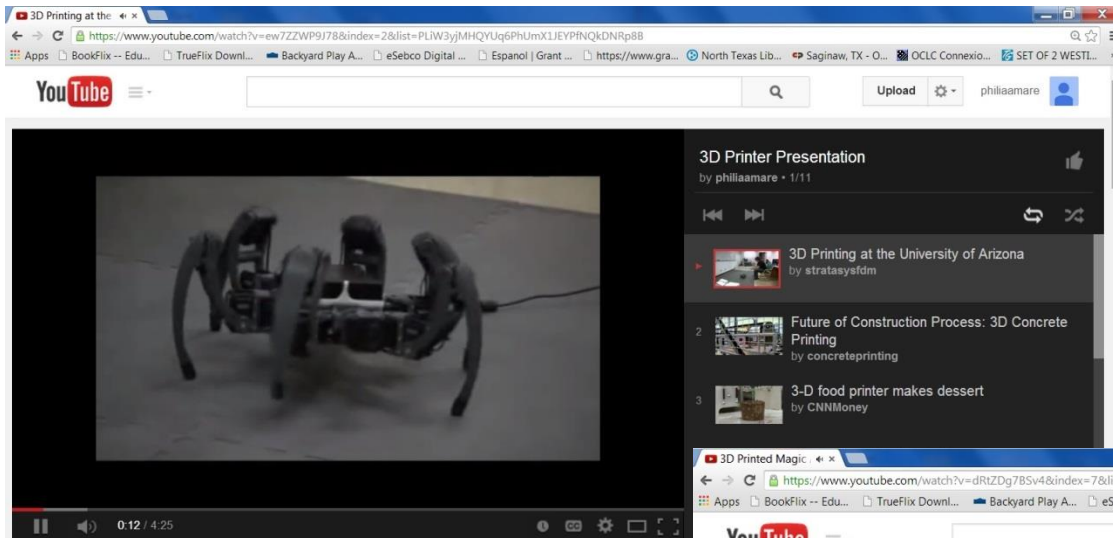
A Common Consumer 3D Printer: Filament, Nozzle, and Platform



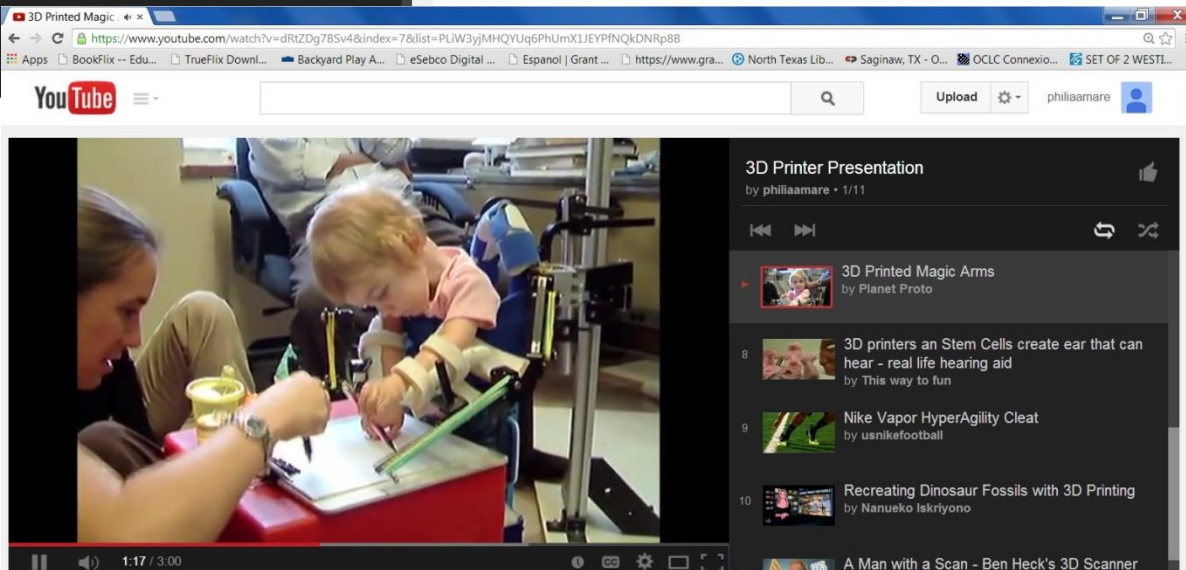
3D Printer Language (i.e.Repetier-Host)



Quick and Affordable Custom Parts



3D Printing at the University of Arizona



Large Scale Printing with Concrete

The image displays two screenshots of YouTube videos related to large-scale concrete 3D printing.

The top screenshot shows a video titled "3D Printer Presentation" by philaamare. The video player shows a close-up of a 3D printer head extruding concrete. The video description on the right lists several related videos, including "Future of Construction Process: 3D Concrete Printing" by concreteprinting, "3-D food printer makes dessert" by CNNMoney, "3D printer makes live body parts" by Zoomin.TV Science, and "ParaNorman Feaurette: Faces of Paranorman" by eOnfilms.

The bottom screenshot shows a video titled "Video: Giant Chinese 3D printer builds 10 houses in just 1 day" by RT. The video player shows a large-scale 3D printer building a concrete structure. The video description on the right lists several related videos, including "Video: Giant Chinese 3D printer builds 10 houses in just 1 day" by RT, "3D Printed Magic Arms" by Planet Proto, "3D printers an Stem Cells create ear that can hear - real life hearing aid" by This way to fun, "Nike Vapor HyperAgility Cleat" by usnikefootball, and "Recreating Dinosaur Fossils with 3D Printing".

Tasty and Creative

3-D food printer n x

https://www.youtube.com/watch?v=XQni3wb0tyM&list=PLiW3yjMHQYUq6PhUmX1JEYPfNQkDNRp8B&index=3

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YouTube

philiaamare

3D Printer Presentation

by philiaamare • 1/11

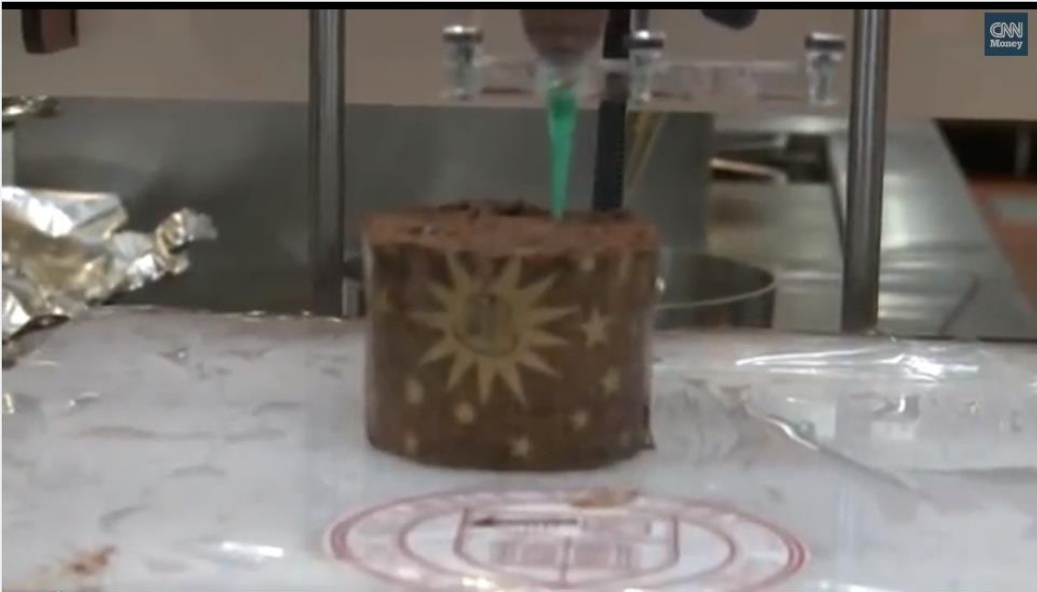
3D food printer makes dessert by CNNMoney

3D printer makes live body parts by Zoomin.TV Science

ParaNorman Feaurette: Faces of Paranorman by eOnefilms

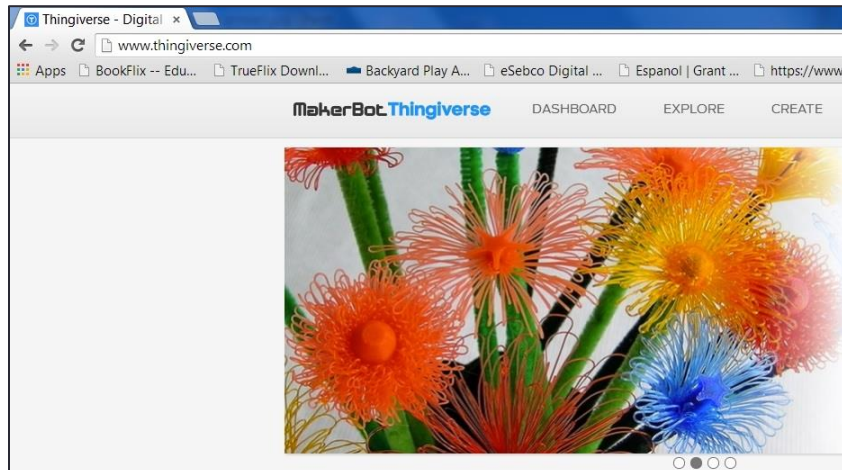
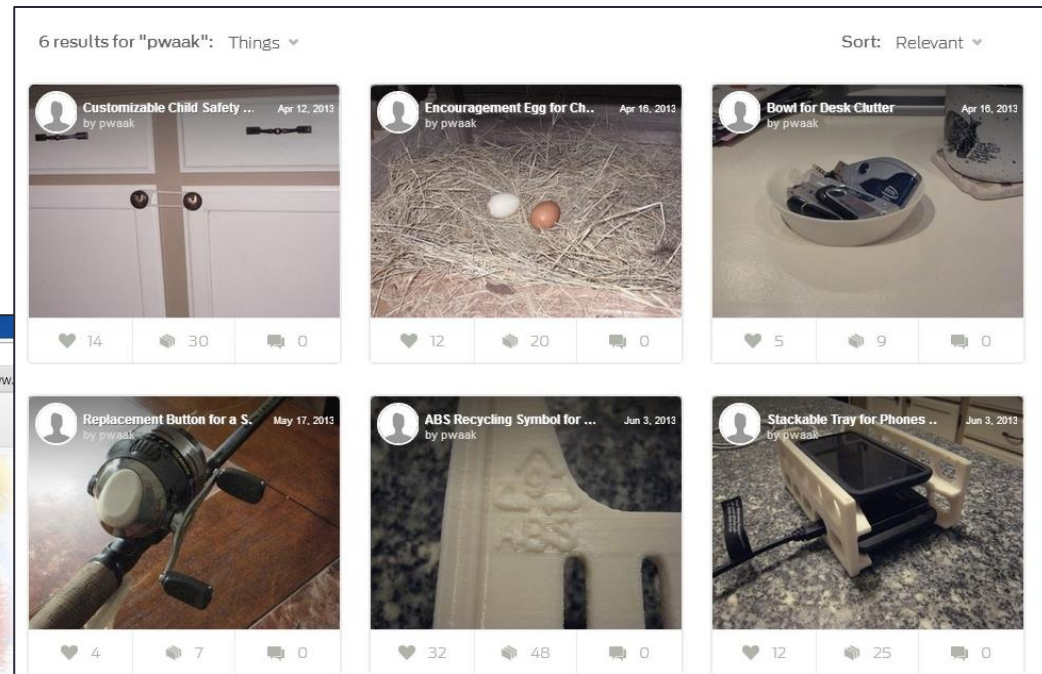
Video: Giant Chinese 3D printer builds 10 houses in just 1 day by RT

3D Printed Magic Arms



0:06 / 2:21

Hobbyists and Fixer-Uppers



Featured Collections

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T-Rex Remix



10 Min Challenge



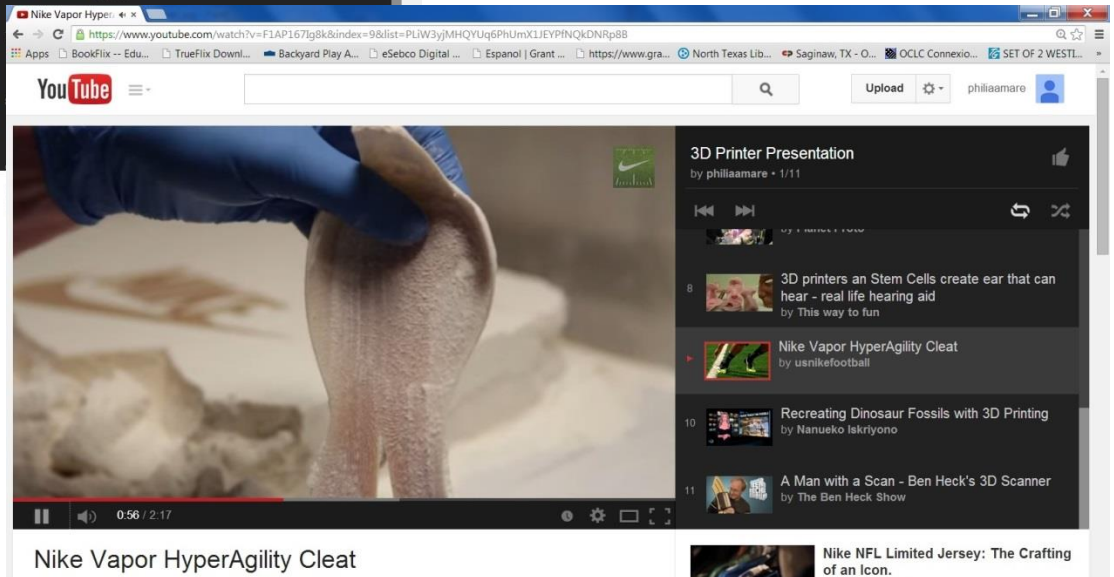
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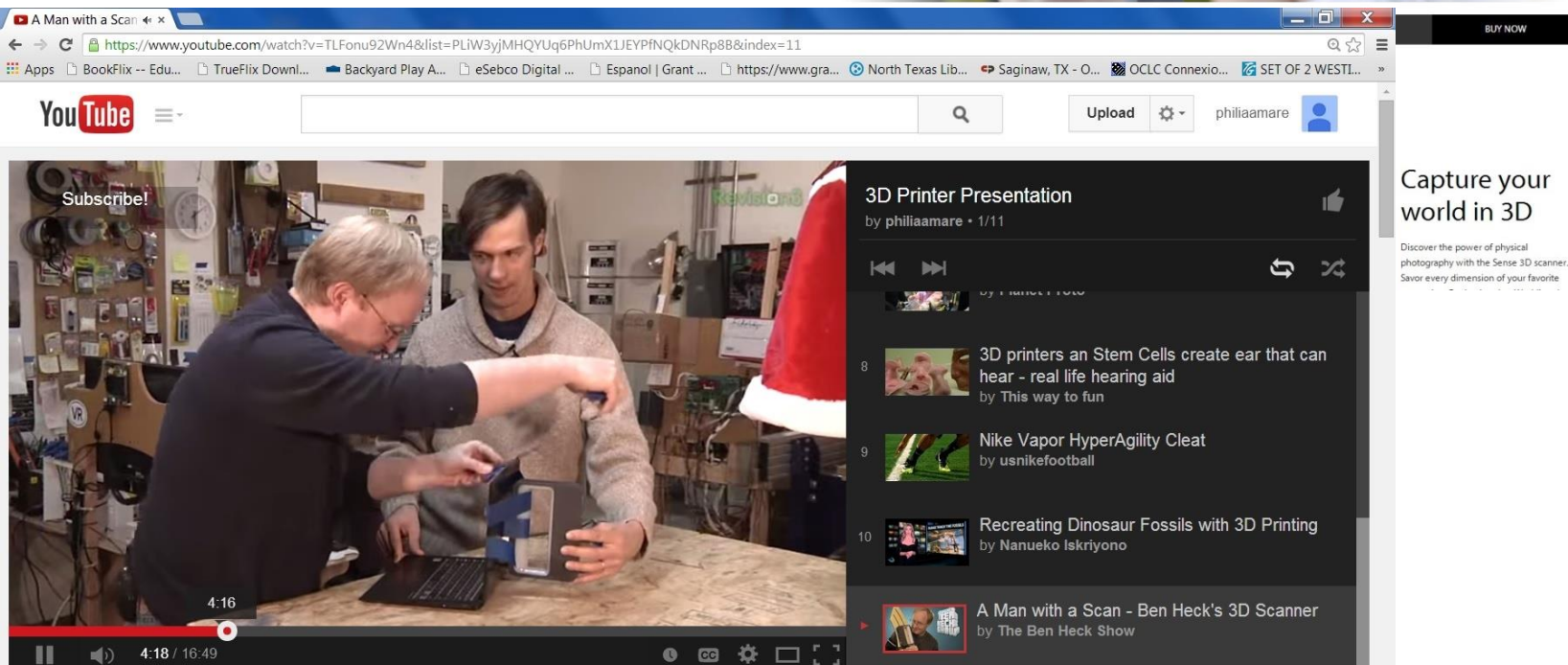
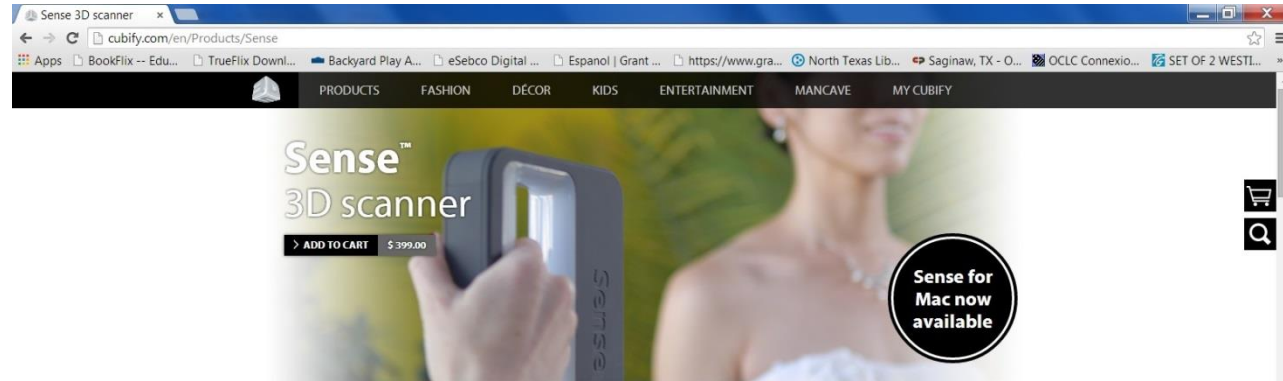
Wearables



Powder Printing 3D Printers: Into the Arts, Crafts, and Science



Scanning into the Future: <http://cubify.com>



A Man with a Scan - Ben Heck's 3D Scanner

Capture your world in 3D

Discover the power of physical photography with the Sense 3D scanner. Savor every dimension of your favorite...

3D Printer Presentation

by philiaamare • 1/11



3D Printer Presentation

by philiaamare



3D printers an Stem Cells create ear that can hear - real life hearing aid

by This way to fun



Nike Vapor HyperAgility Cleat

by usnikefootball



Recreating Dinosaur Fossils with 3D Printing

by Nanueko Iskriyono



A Man with a Scan - Ben Heck's 3D Scanner

by The Ben Heck Show



Ben Heck's Xbox One Teardown

by The Ben Heck Show

Medical World

3D printers an Stei x

https://www.youtube.com/watch?v=dIOoCVogyfQ&list=PLIW3yjMHQYUq6PhUmX1JEYPfNQkDNRp8B&index=8

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YouTube

philiaamare

3D Printer Presentation
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3D printers an Stem Cells create ear that can hear - real life hearing aid
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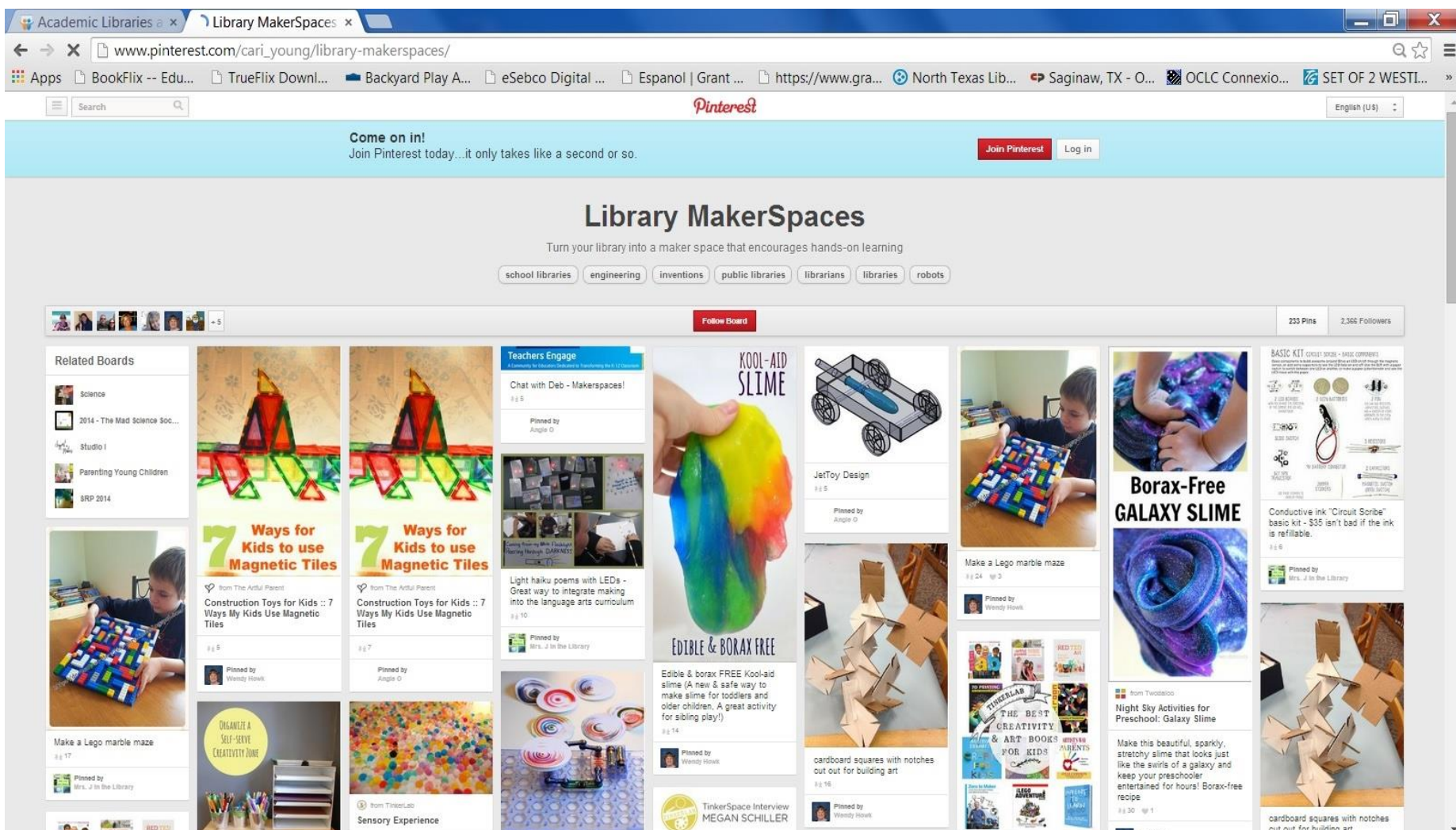
9 Nike Vapor HyperAgility Cleat
by usnikefootball

10 Recreating Dinosaur Fossils with 3D Printing
by Nanueko Iskriyono

11 A Man with a Scan - Ben Heck's 3D Scanner
by The Ben Heck Show

0:05 / 2:05

www.pinterest.com/cari_young/library-makerspaces/



Public & Academic Library MakerSpaces:

www.inventtolearn.com/resources-makerspaces-and-hackerspaces/

The screenshot shows a web browser window with the URL www.inventtolearn.com/resources-makerspaces-and-hackerspaces/. The browser's address bar and tabs are visible at the top. The website's header includes the title "Invent To Learn" and the tagline "Making, Tinkering, and Engineering in the Classroom". A navigation bar contains links: "About the book", "Buy the book", "Reviews", "Resources", "News", "Professional Development", "About the authors", and "CMK Press". The main content area is titled "Resources: Makerspaces and Hackerspaces" and includes a breadcrumb trail "Home > Resources: Makerspaces and Hackerspaces". Below the title, there is a search bar with the text "search here ..." and a "Go" button. A banner for Amazon.com states "NOW AVAILABLE ON amazon.com". The page lists several resources under the heading "Makerspaces and Hackerspaces":

- Makerspace Directory - Worldwide list of makerspaces.
- Hackerspaces.org - A list of hackerspaces worldwide, events, challenges, resources, and more
- Hackerspace Meetup groups
- Makerspace Meetup groups
- TechShop - Shared workshop spaces in seven communities, more planned to open soon.
- The Maker Map - A crowdsourced global map of makerspaces of all kinds, community tool providers, recycling centers, sources of metal and other materials, and more.

Below this, the "Museums and Libraries" section lists:

- Tinkering Studio – Experiments, projects, blogs, and events from the Exploratorium Museum in San Francisco
- Learning Technology Center – Exploring design and informal science learning at the Science Museum of Minnesota
- New York Hall of Science – NYSCI features the largest collection of hands-on science exhibits in New York City and runs hands-on maker events.
- A Librarian's Guide to Makerspaces: 16 Resources - Resources and sites about makerspaces in public and school libraries.

At the bottom right, there is a "Invent to Learn newsletter signup" form with fields for "Email Address*" and "First Name". The footer of the page displays the URL www.fortworthmakerspace.com.

Find a MakerSpace Near You:

<http://makerspace.com/makerspace-directory>

Academic Libraries a x Makerspace | Directc x

makerspace.com/makerspace-directory

Apps BookFlix -- Edu... TrueFlix Downl... Backyard Play A... eSebco Digital ... Espanol | Grant ... https://www.gra... North Texas Lib... Saginaw, TX - O... OCLC Connexio...

Makerspace

HOME BLOG DIRECTORY

Search

Directory

Sometimes the biggest challenge in connecting with other Makers is trying to finding a Makerspace near you. Where do you start?

Makerspace.com is establishing a world-wide directory of Makerspaces to encourage the growth of Maker communities all over the globe.

By adding your Makerspace in this listing, you not only become part of our searchable database for Makers seeking like-minded people in their area but you also contribute to our study of the Makers Movement as a whole.


List of additional makerspaces which may not be listed here can be found at [Maker Community Groups](#).

Add Your Makerspace

Makerspace Name	City	State
091 Labs	Galway	Ireland
10BitWorks	san antonio	tx
3rd Ward	Brooklyn	NY
4-H Robotics & Technology Club	Traverse City	MI
4-H Robotics Club	Traverse City	Michigan
757 Makerspace	Norfolk	Virginia

Want to make a makerspace?

Check out our playbook. It covers many of the challenges involved in creating a space.



Makerspace News

Makerspace conversation brings minds together - Monadhock Ledger Transcript
Yorlt gives \$20K to makerspace Working Class - York Dispatch
Yoga for kids and family makerspace at Medfield Library - Wicked Local Medfield
Peterborough talk on makerspaces, creative spaces planned - The Union Leader
The Shop: Toronto's new inclusive makerspace - Boing Boing

MakerSpaces in Libraries:

<http://library-maker-culture.weebly.com/makerspaces-in-libraries.html>

Academic Libraries x

Makerspaces in Libr x

← → ↻

library-maker-culture.weebly.com/makerspaces-in-libraries.html

Apps

BookFlix -- Edu...

TrueFlix Downl...

Backyard Play A...

eSebco Digital ...

Espanol | Grant ...

https://www.gra...

North Texas Lib...

Saginaw, TX - O...

OCLC Co

Libraries & Maker Culture: A Resource Guide

Home

3D Printing

Makerspaces

Contact



Makerspaces in Libraries

Explore the links below for some examples of how makerspaces are being incorporated into both academic and public library settings. Many of these makerspaces include 3D printing services, but most expand beyond to offer a number of different services to library patrons. If you are thinking about creating your own makerspace, check out Emily Thompson's [Technology Toolbox](#) for a list of useful software. If you are thinking about partnerships with local makerspaces, you can start with the [Maker Community Groups and Spaces list](#).

Academic Libraries



University of Michigan 3D Lab

The 3D Lab at University of Michigan is an example of an academic library makerspace. They are located in the Art, Architecture, and Engineering Library and offer services to the campus community, such as 3D printing, 3D scanning, virtual reality, and motion capture.

[Article about UM 3D Lab](#)

Examples of Libraries with MakerSpaces

- Public

- Johnson County Library (Kansas)
- Public Library of Cincinnati and Hamilton County (Ohio)
- Missoula Public Library (Montana)
- Denton Public Library (Texas)


- Academic

- North Carolina State University - Hunt Library
- University of Michigan - MLibrary
- University of Nevada Reno - DeLaMare Library
- Caldwell College (New Jersey) – Jennings Library

Johnson County Library MakerSpace (Public):

www.jocolibrary.org/templates/JCL_InfoPage.aspx?id=24413&epslanguage=EN

What kinds of activities do you have?

 **MAKER MONDAYS:**
Every Monday 5-9 p.m.
It's open and free time for anyone to come in.
Assist with creative projects and photography is available.

- learn about the space
- take a tour
- learn how to use the equipment

What kind of stuff do you have?

Books **Magazines** **Websites**

Electronics
DIY Graphic Design
Projects for Kids
Software Essentials
Film and Music Creation
Crafts & Sewing
Books for Mini Makers

What kind of stuff do you have?

SOFTWARE:
Design/Publication:

- Adobe Creative Suite:
InDesign, Dreamworks, Photoshop, Illustrator, etc.
- Sketchbook Express
- iBooks Author
- Anime Studio
- Manga Studio EX4
- Corel Painter Essentials
- iPhoto

MAKERWARE:
Hardware:

- 2 Mac Computers
- Wacom Bamboo Create Tablet
- Canon 9000F High Resolution Scanner

Video Equipment:

- Sony HDR Digital Video Camera
- tripod
- Softbox lighting kit
- green screen

Audio Equipment:

- Blue Yeti Microphone
- Sennheiser pro headphones

Other:

- Singer 9950 Quantum Stylist Sewing Machine
- Soldering Irons
- MakerBot Replicator 2 3D printer


Design/Programming:

- Xcode

3D Modeling:

- Google Sketchup
- Cheetah3D
- Blender
- MakerWare
- OpenSCAD
- ReplicatorG

Log In | Log Out

 Find books, music, movies, and more.

Keyword


☒ Catalog ☐ Website ☐ Magazine List [Advanced Search](#)

All locations will be closed Sunday and Monday, May 25 & 26 for Memorial Day.

My Library Explore Using the Library Find a Good Book Research Classes & Events Locations Kids Teens

JOCOLIBRARY > USING THE LIBRARY > MAKERSPACE

MakerSpace



Located next to the Information Services desk, the MakerSpace is a place you can go to learn new skills and software, make cool stuff and customize your world. Use the space to play, tinker and experiment with media, design and electronics in an open and collaborative environment. There are no age limits here! A 10 year old can teach classes and a 70 year old can play with toys.

This is DIY learning at its best.


The MakerSpace is now open daily during regular Central Resource Library hours!


Call ahead and book up to three months in advance.
You can make use of the space two hours at a time!


What can you make in the MakerSpace?

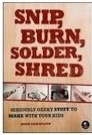
- Newsletters
- Websites
- Videos for your website
- Digital Scrapbooks
- Silly pics of your friends
- Pants
- Phone case
- Business Cards
- Shower curtain rings
- Chess set
- Music recordings
- Digital pictures from negatives
- Chess pieces
- External dimmer kit
- Stuffed animals
- Costumes
- Booklets
- Models
- Circuit board kits

What can you read to help you in the MakerSpace?

 PhotoJojo!
The most great photo projects and DIY ideas

 D.I.Y.
DIY projects for everyone

 Stick It!
DIY projects for everyone

 Snip, Burn, Solder, Shred
DIY projects for everyone

See the complete list of the best of MakerSpace-related books >>>

Books **Magazines** **Websites**

MPL MakerSpace (Public):

www.missoulapubliclibrary.org/makerspace

Missoula Public Library | 301 East Main Missoula MT 59802 | (406) 721-2665 | M-W 10am-9pm | Th-Sa 10am-6pm | Su 1-5pm

MISSOULA PUBLIC LIBRARY Think...MORE!


Big Sky HS | Frenchtown | Lolo | Potomac | Seeley Lake | Swan Valley | W.O.W. Bus

Home About Collection Resources Events & News Services Kids Young Ad

Services

- [My Library Account](#)
- [Library Cards](#)
- [Ask a Librarian](#)
- [Interlibrary Loan](#)
- [Senior Outreach](#)
- [Reference](#)
- [Genealogy](#)
- [Classes](#)
- [Public Computers](#)
- [Home Delivery Program](#)
- [MakerSpace](#)
- [Web on Wheels \(WOW\) Bus](#)
- [Civittella Espresso Bar](#)

Makerspace



[Current Classes](#)
[For participants](#)
[Equipment List](#)

What is a Makerspace?

A Makerspace is simply a place people can go to get the training, tools, and camaraderie to start turning their ideas into physical things. The Missoula Public Library MakerSpace will provide 6 stations for users to learn about a variety of tools and techniques. For a short video explaining the basics, please [click here](#) to access a KPAX news clip!

Our four initial areas of study and creativity are electronics on the

What do we have in the MPL MakerSpace?

- A Makerbot Replicator 2 3D printer
- A Next Engine Desktop 3D scanner
- A Bernina model 1008 sewing machine
- A Cricut Expression 2 craft cutter
- A Silhouette Cameo craft cutter
- A digital oscilloscope
- A USB oscilloscope
- Two function generators
- Two power supplies
- Two variable temperature soldering irons
- A variety of hand tools such as those found in home toolboxes (pliers, screwdrivers, etc.)
- An adjacent room houses 6 computers with a projector which can be used for lessons
- An Eggbot

We also have 6 work stations each with the following equipment:

- A Sparkfun Inventor's kit
- A Sparkfun Deluxe Toolkit
- Dell dual-boot notebook to Linux and Windows
- Adafruit Raspberry Pi starter pack

Current Classes:

Call 721-2665 for more information and to register.

Bicycle Maintenance and Repair

Ever wanted to learn how to change a flat and do some basic general maintenance on your bike? Simple bike repairs can be very easy when

North Carolina State University MakerSpace (Academic):


www.lib.ncsu.edu/spaces/makerspace

Makerspace | NCSU

www.lib.ncsu.edu/spaces/makerspace

NC STATE UNIVERSITY

CAMPUS DIRECTORY | LIBRARIES | MYPACK PORTAL | CAMPUS MAP | SEARCH NCSU.EDU

 NCSU LIBRARIES

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Makerspace

Hunt, Room 4412

Summer Hours

Open 2 - 6PM Monday-Friday, May 19-August 1

Closed May 26, June 25, July 4

Available by appointment only May 7-18, August 2-19 (email us)

If you have questions or for more information, please email us at library_makerspace@ncsu.edu

What is the Makerspace?

The Hunt Library Makerspace supports students, faculty, and staff in learning about emerging technologies and bringing their creations to life. The space has two 3D printers and a laser cutter for rapid prototyping of designs. What will you make?

Access & Costs

Makerspace services are available to all current NCSU students, faculty, and staff. The service costs are:

- **uPrint 3D Printer:** \$10 per cubic inch of material, with a \$5 minimum
- **MakerBot 3D Printer:** \$0.35 per gram of material, with a

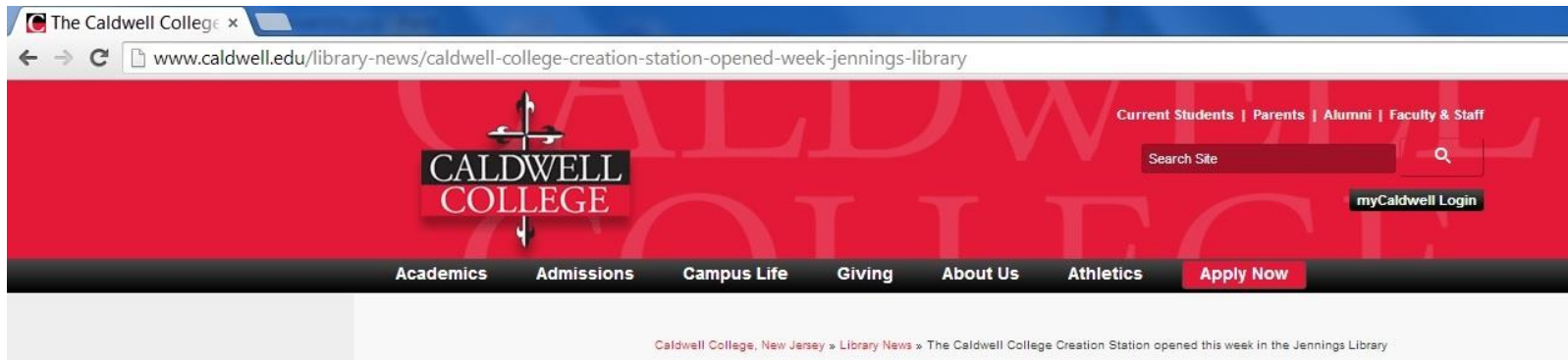


The Hunt Library Makerspace



Creation Station (Academic):

<http://www.caldwell.edu/news/caldwell-college-creation-station>



Caldwell College, New Jersey » News » Caldwell College Creation Station

Caldwell College Creation Station



March 31, 2014 – The Caldwell College Creation Station opened in the Jennings Library last week. The Creation Station is part of "New Jersey Library Makerspaces – The Leading Edge," an initiative that combines equipment with community-driven innovation, to develop creative laboratories where New Jersey residents will be able to share resources and knowledge, collaborate on projects, network and build things. The New Jersey State Library and LibraryLinkNJ, the New Jersey Library Cooperative, subsidized 15 Makerspaces at libraries statewide. The Jennings Library at Caldwell College was one of two academic libraries awarded the funding—the other was the Rutgers University Libraries.



"The contemporary Makerspace movement is really about creating community spaces where people can learn by doing and engage in exploration and creativity using digital and analog technologies. Such spaces can both enrich and empower library users' lives," said Mary Chute, NJ State Librarian. "It's an extension of the library's mission – a place of lifelong learning and community engagement – be it public, academic, school, medical or other type of library."

The Caldwell College Creation Station is equipped with a Makerbot Replicator (5th Generation) 3-D printer, a Makerbot Digital Scanner and handheld Sense Scanners and will focus on educational uses of 3-D printing, including the needs of visually impaired and kinesthetic learners. "A primary goal of the Creation Station is to move 3-D printing from the latest fad to a transformative tool that increases student engagement and fosters authentic learning across educational sectors," said Dr. Nancy Becker, Executive Director of the Jennings Library.

Demonstrations, workshops and continuing education courses will be offered, allowing College faculty and area K-12 educators the opportunity to brainstorm, share ideas and create 3-D objects for their own classrooms. The first 3D Printing Workshop for K-12 teachers was held on Friday, April 4. Students participating in [Summer College at Caldwell](#) will produce a 3D printed object to support their STEM research projects.

Funding for this Makerspace Initiative is provided by the New Jersey State Library and by LibraryLinkNJ, The New Jersey Library Cooperative, whose services are funded by the New Jersey State Library, which is responsible for the coordination, promotion, and funding of the New Jersey Library

The Caldwell College Creation Station opened this week in the Jennings Library



Equipped with a Makerbot Replicator (5th Generation) 3-D printer, two Makerbot Digital Scanners and a handheld Sense scanner, the CS has generated excitement across campus. The Creation Station team is learning the logistics of 3-D printing and has been busy printing an array of sample objects, including chain links, boxes, human heart, cross-section of the heart, a fully functional wrench and busts of scanned staff members.



Do All MakerSpaces Have a 3D Printer?

- Answer: No
- Ask the better questions:
 - “Would the patrons we serve at the library benefit from a MakerSpace?”
 - “Would the patrons we serve at the library benefit from a 3D printer?”
 - “Do we have the space for a MakerSpace or a 3D Printer?”
- Survey your patrons: www.surveymonkey.com
- Organize a Focus Group

Questions about MakerSpaces?



Why Have 3D Printers in Libraries?

- Social Impact
- Education for Youth
- Intergenerational and Diverse Interests for All People
- Spread respect for intellectual property



The screenshot shows a YouTube video player with the title "Teen uses a 3-D printer to craft hand for boy" by KansasCityStarVideo. The video shows a young boy in a library, holding up a red and white 3D printed prosthetic arm. The video has 43,545 views and 813 subscribers. The right sidebar shows a playlist of related videos, including "3D Printer Presentation", "Recreating Dinosaur Fossils with 3D Printing", "A Man with a Scan - Ben Heck's 3D Scanner", "Cornell 3D Prints A Working Speaker", and "Teen uses a 3-D printer to craft hand for boy".

Teen uses a 3-D printer to craft hand for boy

KansasCityStarVideo · 846 videos

43,545 views

Subscribe 813

3D Printer Presentation
by philliamare · 1/13

Recreating Dinosaur Fossils with 3D Printing
by Nanueko Iskriyono

A Man with a Scan - Ben Heck's 3D Scanner
by The Ben Heck Show

Cornell 3D Prints A Working Speaker
by lazyboytech

Teen uses a 3-D printer to craft hand for boy
by KansasCityStarVideo

Critics of Grain Belt Express describe their opposition
by KansasCityStarVideo
1,143 views

Chappell's Restaurant and Sports

Selecting the Right 3D Printer(s)

- Target Audience (Community, Student, Faculty, Staff)
- Location (Mobile or Permanent)
- Quantity & Variety Needed
- Price
- Size
- Sound
- Print Speed
- Detail Quality
- DIY or Pre-built
- Software Compatibility
- Number of Extruders

Read Reviews:

<http://makezine.com> & <http://3d-printers.toptenreviews.com>

Make: Ultimate Guide to 3D Printing 2014

makezine.com/volume/guide-to-3d-printing-2014/?

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Find all your DIY electronics in the MakerShed → 3D Printing, Kits, Arduino, Raspberry Pi, Books & more! SHOP NOW

Make: Ultimate Guide to 3D Printing 2014

3D Printers Review 2 | x

3d-printers.toptenreviews.com

Apps BookFlix -- Edu... TrueFlix Downl... Backyard Play A... eSebc Digital ... Espanol | Grant ... https://www.gra... North Texas Lib... Saginaw, TX - O... OCLC C

TopTenREVIEWS

Electronics > Printers > 3D Printers

2014 BEST 3D Printers REVIEWS AND COMPARISONS

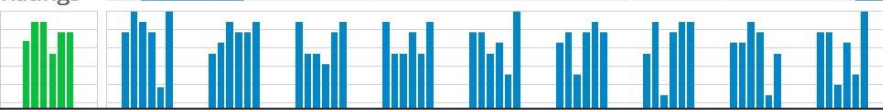
Gold Award Winner Rankings

#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
Cubify CubeX	Ultimaker 2	Cubify Cube	AW3D XL	Airwolf AW3D HD	Ditto +	MBot Cube II	MBot Cube	Replicator 2X	Litto
\$1,999.99	\$2600.00*	\$1,123.15	\$2,399.00	\$2,995.00	\$1,249.00	\$1,507.60	\$1,199.00	\$2,199.00	\$999.00
READ REVIEW	REVIEW	REVIEW	REVIEW	REVIEW	REVIEW	REVIEW	REVIEW	REVIEW	REVIEW
VISIT SITE	VISIT SITE	VISIT SITE	VISIT SITE	VISIT SITE	VISIT SITE	VISIT SITE	VISIT SITE	VISIT SITE	VISIT SITE

Displaying 2 - 10 of 24 < prev | next >

Ratings

Overall Rating Printing Features Filament & Cartridges Printer Design Connectivity Help & Support



SPECIAL ISSUE: 3D PRINTER BUYER'S GUIDE • 23 PRINTER REVIEWS!

Make: 2014

ULTIMATE GUIDE TO 3D PRINTING \$300 to \$3000: WHICH PRINTER IS RIGHT FOR YOU?

Printer • CNC add-on • Replicator • MakerBot • Ultimaker • Cubify • Airwolf • Ditto • MBot • Replicator • Litto

MAKER MEDIA

MAKE's 3D Printer Testing Results

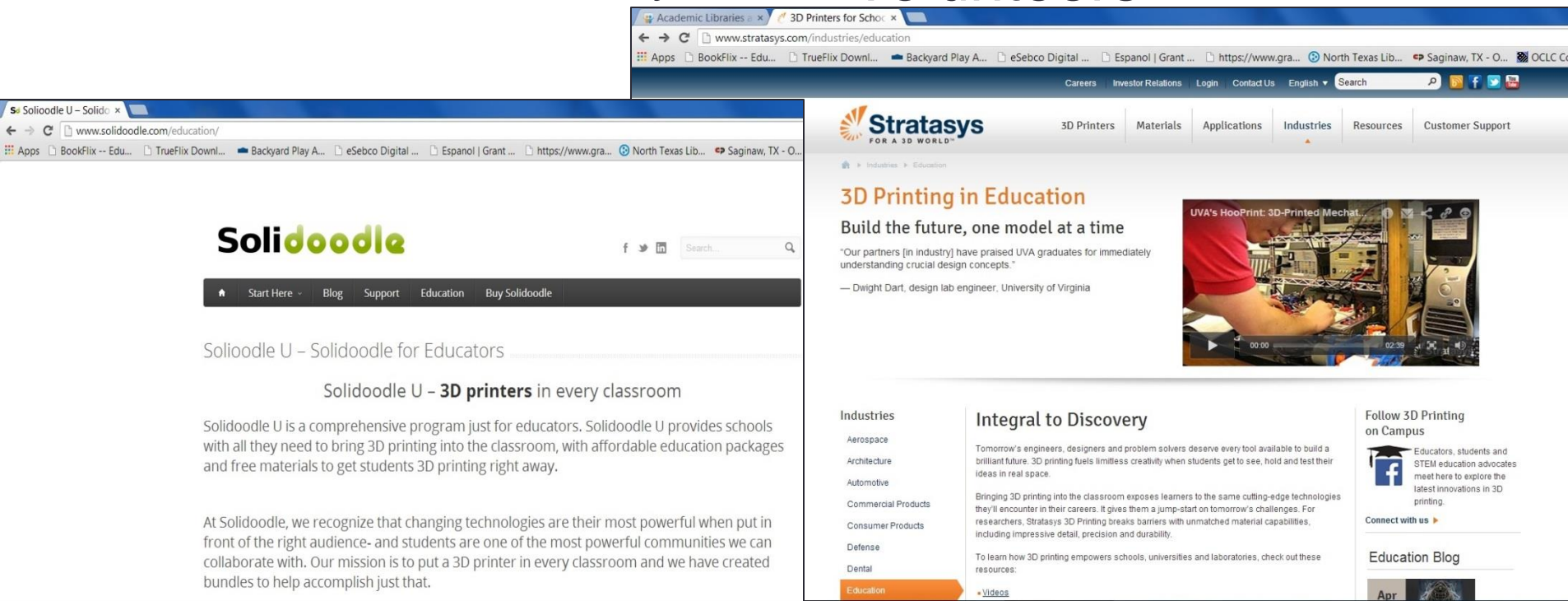
3D Printing Buyer's Guide: About Our Testing

Meet the 2014 3D Printer Review Team

de recommendations based

Funding Options for 3D Printers

- General Budget
- Donations
- Educator Discounts
 - Solidoodle & Stratasys
- Vendor Discounts
- Build Partnerships
- Grants
- Volunteers



The image shows two overlapping web browser windows. The foreground window displays the Solidoodle U website, which is a resource for educators. The background window shows the Stratasys website, specifically the '3D Printing in Education' section.

Solidoodle U - Solidoodle for Educators

Solidoodle U – **3D printers** in every classroom

Solidoodle U is a comprehensive program just for educators. Solidoodle U provides schools with all they need to bring 3D printing into the classroom, with affordable education packages and free materials to get students 3D printing right away.

At Solidoodle, we recognize that changing technologies are their most powerful when put in front of the right audience- and students are one of the most powerful communities we can collaborate with. Our mission is to put a 3D printer in every classroom and we have created bundles to help accomplish just that.

Stratasys FOR A 3D WORLD™

3D Printing in Education

Build the future, one model at a time

"Our partners (in industry) have praised UVA graduates for immediately understanding crucial design concepts."

— Dwight Dart, design lab engineer, University of Virginia

Industries

- Aerospace
- Architecture
- Automotive
- Commercial Products
- Consumer Products
- Defense
- Dental
- Education

Integral to Discovery

Tomorrow's engineers, designers and problem solvers deserve every tool available to build a brilliant future. 3D printing fuels limitless creativity when students get to see, hold and test their ideas in real space.

Bringing 3D printing into the classroom exposes learners to the same cutting-edge technologies they'll encounter in their careers. It gives them a jump-start on tomorrow's challenges. For researchers, Stratasys 3D Printing breaks barriers with unmatched material capabilities, including impressive detail, precision and durability.

To learn how 3D printing empowers schools, universities and laboratories, check out these resources:

Follow 3D Printing on Campus

Educators, students and STEM education advocates meet here to explore the latest innovations in 3D printing.

Connect with us

Education Blog

Library Grants:

<http://librarygrants.blogspot.com> &
www.ims.gov/applicants/available_grants.aspx

Academic Libraries x Library Grants x

← → ↻

librarygrants.blogspot.com

Apps BookFlix -- Edu... TrueFlix Downl... Backyard Play A... eSebo Digital ... Espanol | Grant ... https://www.gra... North Texas Lib... Saginaw, TX - O...

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Authors
Stephanie Gerdling & Pam MacKellar
Our book, *Winning Grants: A How-To-Do-It Manual for Librarians with Multimedia Tutorials and Grant Development Tools*, was published by Neal-Schuman Publishers. Order your copy now.
If you are republishing our content, please give credit to the authors, Pam and Stephanie, and include a link to this blog. Thank you!
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For librarians interested in grant opportunities!

Library Grants

Tuesday, May 20, 2014

Margaret Edwards Teen Collection Development Grant

Deadline: December 1, 2014

This grant awards \$5,000 for a library to use towards improving or expanding its teen collection. Funds may be used for print, non-print and/or digital materials. All personal YALSA members who represent a public library or school library are eligible to apply. Up to four grants will be awarded in 2014.

All applicants must be current personal members of ALA/YALSA at the time the application is submitted.

Each application will be judged on the basis of:

1. The degree of the library's need for collection development funding.
2. The effectiveness of the community assessment done to determine teen needs.
3. The strength of the plan to enhance the collection.
4. The impact this grant will bring to the teens in the library's community, especially disadvantaged youth.
5. The degree to which the plan supports the principles in *The Future of Library Services for and with Teens: a Call to Action* report.

A link to the application and more details can be found on the [website](#).

— posted by Stephanie Gerdling @ 12:13 PM 0 comments

Tuesday, April 22, 2014

Academic Libraries x Available Grants x

← → ↻

www.ims.gov/applicants/available_grants.aspx

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Grant Applicants Grant Reviewers Grant Recipients State Programs Research Resources News About Us

Grant Applicants

Available Grants

- By Grant Name
- By Institution Type
- By Project Type

[Eligibility Criteria](#)
[Sample Applications](#)
[Grants.gov](#)
[Program Guidelines](#)
[After You Apply](#)
[Outcome Based Evaluation](#)

View Available Grants

Grant Name:
(Select multiple options by pressing the control key as you click.)

Project Type:
(Select multiple options by pressing the control key as you click.)

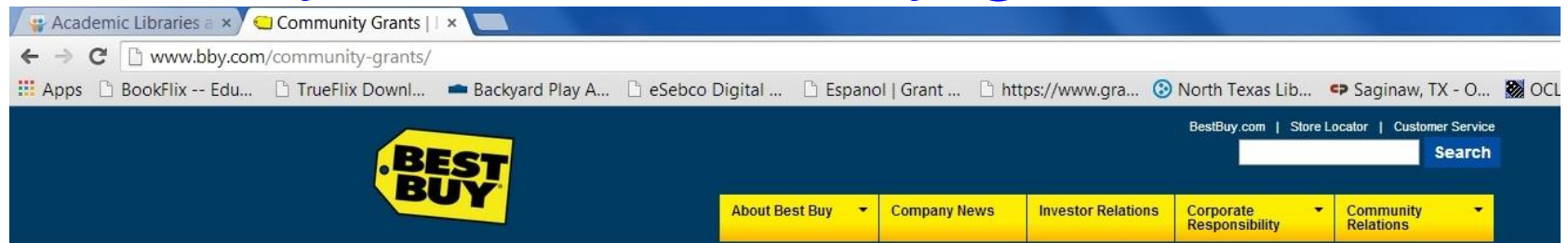
Institution:
(Select multiple options by pressing the control key as you click.)

Sort options: Grant Name go

[Grant Applicants](#) [Grant Reviewers](#) [Grant Recipients](#) [State Programs](#) [Research](#) [Resources](#) [News](#) [About Us](#)
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Best Buy Community Grant

www.bby.com/community-grants/



Community Grants

Requests for Proposals for Community Grants

Helping Teens Build 21st Century Technology Skills

For decades people have turned to Best Buy for answers to their technology questions. As technology becomes more ingrained in our society, we know it is increasingly necessary for youth to develop the 21st-century skills that will set them up for future career success. Yet, we also know that a participation gap exists. Too many teens have little or no access to technology and, as a result, they fall behind their peers. Meanwhile, teens who do have access can benefit greatly by moving beyond mere consumption and toward engaging in the learning opportunities technology can offer.

As a Company, and through our Best Buy Foundation, we are on a mission to provide teens with places and opportunities to develop technology skills that will inspire future education and career choices. We strive to leverage our local community presence, our technology resources and our talented employees to provide new and creative programs to serve our communities.

Best Buy Community Grants

Best Buy Foundation will donate up to \$2 million in Community Grants to local and regional nonprofit organizations that provide teens with places and opportunities to develop 21st century technology skills that will inspire future education and career choices.

Examples of program activities include:

BBY Stock Quote NYSE (US Dollar)

\$27.05 0.79 (+3.01%)

At Best Buy, WE PROMISE:

Advice, Service and Convenience...
ALL at competitive prices.

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Staples Foundation:


www.staples.com/sbd/cre/marketing/about_us/how-we-give.html

How We Give | About x

[←](#) [→](#) [↻](#) [www.staples.com/sbd/cre/marketing/about_us/how-we-give.html](#)

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ABOUT US CORPORATE RESPONSIBILITY ▾ INVESTOR RELATIONS MEDIA INFORMATION

Community ▸ How We Give ▸

How We Give

From cause marketing and charitable donations to grants and gift cards, Staples supports 501(c)(3) non-profit organizations in a variety of ways. In fact, in 2012 we gave \$14.6 million and helped more than 6,500 organizations around the world.

Grants

Staples FoundationSM, our private charitable arm, awards grants through the new 2 Million & Change program that allows associates to nominate organizations that they personally care about and support. We encourage non-profits to reach out to Staples' associates to learn more about the program.

Charitable donations

If an organization fits within our mission, they can visit their local Staples[®] store and speak with the general manager about support. All requests are evaluated by the local store and decisions are made at the discretion of store management.

We care gift cards

Staples stores support non-profit organizations through We Care gift cards. These gift cards allow organizations to get the supplies they need from Staples to help make a community event or program a success.

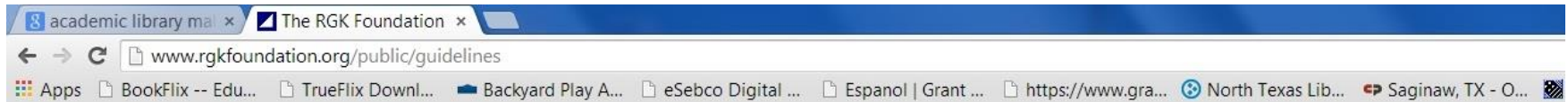
Eligibility guidelines:

- Registered 501(c)(3) non-profit organization
- Serving the following areas:
 - Education (examples: schools, GED program, mentoring, tutoring, college preparation)
 - Job Skills (examples: job training/placement, resume building, interview skills, career exploration)

Staples will not make donations to the following:

- Organizations that discriminate on the basis of race, religion, creed, national origin, gender, disability, age, sexual orientation or any other basis prohibited by law
- Political organizations
- Religious organizations, unless they are engaged in a significant project which benefits

RGK Foundation: www.rgkfoundation.org



HISTORY ●

TRUSTEES & STAFF ●

GRANTS ●

LINKS ●

FINANCIAL ●

HOW TO APPLY ●

CONTACT US ●

SPECIAL PROJECTS ●

- [Grant Program](#)
- [How to Apply](#)
- [Eligibility](#)
- [Limitations](#)
- [Deadlines](#)
- [Grant Committee Dates](#)
- [Frequently Asked Questions](#)
- [Report Forms](#)
- [Proposal Project Budget Form](#)

Grant Program

RGK Foundation awards grants in the broad areas of **Education**, **Community**, and **Health/Medicine**.

The Foundation's primary interests within **Education** include programs that focus on formal K-12 education (particularly mathematics, science and reading), teacher development, literacy, and higher education.

Within **Community**, the Foundation supports a broad range of human services, community improvement, abuse prevention, and youth development programs. Human service programs of particular interest to the Foundation include children and family services, early childhood development, and parenting education. The Foundation supports a variety of Community Improvement programs including those that enhance non-profit management and promote philanthropy and voluntarism. Youth development programs supported by the Foundation typically include after-school educational enrichment programs that supplement and enhance formal education systems to increase the chances for successful outcomes in school and life. The Foundation is also interested in programs that attract female and minority students into the fields of mathematics, science, and technology.

The Foundation's current interests in the area of **Health/Medicine** include programs that promote the health and well-being of children, programs that promote access to health services, and Foundation-initiated programs focusing on ALS.

Although there are no geographic restrictions to the Foundation's grantmaking program, the Foundation no longer accepts unsolicited requests for international agencies or programs. While the Foundation occasionally awards grants for operating expenses, capital campaigns, endowments, and international projects, such grants are infrequent and usually initiated by the Foundation. Multiyear grants are rare; most grants are awarded for a one-year period. [Click here to view listing of recent grants awarded by the Foundation.](#)

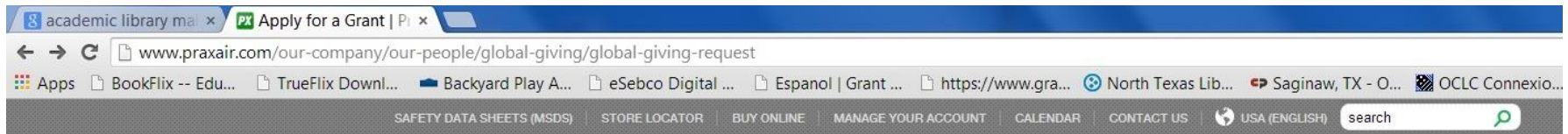
How to Apply

RGK Foundation does not accept unsolicited grant proposals. All applicants must complete an electronic Letter of Inquiry from the Web site as the first step. RGK Foundation will entertain one electronic Letter of Inquiry (LOI) per organization in a twelve-month period. Organizations that submit unsolicited proposals will receive notification directing them to submit an electronic Letter of Inquiry via the Web site. **After reading the remaining application guidelines, you may click on the link at the bottom of the Frequently Asked Questions section to begin.**

Eligibility

Praxair Foundation:

www.praxair.com/our-company/our-people/global-giving/global-giving-request



Gases

Services

Industries

Investors

Careers

Our Company

[Home](#) > [Our Company](#) > [Our People](#) > [Global Giving](#) > [Apply for a Grant](#)

Apply for a Grant

WHO IS ELIGIBLE?

Praxair gives priority to organizations where our employees volunteer their time and talent.

Our key areas of giving are education, diversity, healthcare, environment and disaster relief.

GRANT REQUEST FORM

To apply for a grant please complete the form below.

Additionally, the following documentation must be emailed to Praxair_GlobalGiving@praxair.com in order for your grant request to be considered.

1. Proof of Internal Revenue code tax exempt status (i.e. 501(c)(3)).
2. Literature or additional documentation produced by the organization which describes its mission and scope of activities.

The level of support granted is commensurate with employee involvement in the project and how well it fits within program guidelines. Grant applications are reviewed monthly. You will be contacted with the determination of your request even if it is not approved.

Tell us about your project

*Required Field

Organization for Consideration*

U.S. dollar amount for consideration (numbers only, no letters or special characters)*

Sponsor an AmeriCorps Vista Project:

www.nationalservice.gov/programs/ameri-corps/ameri-corps-vista/sponsor-vista-project

Coming soon to Missoula Public Library July 2014

Sponsor a VISTA Proj x

www.nationalservice.gov/programs/ameri-corps/ameri-corps-vista/sponsor-vista-project

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COMMUNITY
SERVICE** 

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your capacity >

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on our nation >

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School Turnaround AmeriCorps
▶ AmeriCorps 20th Anniversary
AmeriCorps State and National
AmeriCorps VISTA
What VISTA Members Do
VISTA Summer Associates
VISTA History
Sponsor a VISTA Project
AmeriCorps VISTA FAQs
▶ AmeriCorps NCCC
▶ FEMA Corps
▶ Segal AmeriCorps Education Award
▶ For Alumni
▶ Eli Segal Fellowship
AmeriCorps FAQs

Sponsor a VISTA Project

AmeriCorps VISTA members spend one year in full-time service to address the needs of low-income communities. All projects focus on building permanent infrastructure in organizations to help them more effectively bring individuals and communities out of poverty.

Who can apply?

- Public, private, or faith-based nonprofit organizations
- Local, state, or federal agencies

Project sponsors must be able to direct the project, supervise the AmeriCorps VISTAs, and provide necessary administrative support to complete the goals and objectives of the project. The goals and objectives must be clearly defined and directed toward alleviating problems of low-income communities, and meet the regulations of the AmeriCorps VISTA program.

One consistent goal for every AmeriCorps VISTA project should be the sustainability of the project by the sponsoring agency and the low-income community after AmeriCorps VISTA project sponsorship ends.

How Does My Organization Apply to Become an AmeriCorps VISTA Sponsor?



VISTA Campus

VISTA tutorials, resources, and learning community.

VISTA Social Media

-  VISTA on Facebook
-  VISTA on Twitter
-  VISTA on YouTube
-  VISTA on Flickr

Administrative Side of 3D Printing

- Personnel
 - Paid Personnel or Volunteers?
- Fees
 - Charge by time, filament, or ounces?
- Managing Liability
 - Print Copy or Electronic Forms
 - Certification for Use
- Policies
 - What objects are NOT allowed?
 - Age Limits
 - Print Time Restrictions
 - Will the patron need to be present during the printing?
 - Print Job or Print File Failure
 - Library's Right to Refuse Print Jobs
 - Disclosure Notice

Saginaw, TX 3D Printer Policy:

<http://ci.saginaw.tx.us/DocumentCenter/View/2666>

City of Saginaw John Ed Keeter Public Library 3D Printer Policy

The City of Saginaw Public Library System (the "Library") maintains and furnishes a 3D Printer ("Equipment") for sole use by library patrons (individuals with library cards issued by the Library). The maintenance and furnishing of the Equipment is not intended to create a forum for library patrons to express themselves, to encourage a diversity of views from private speakers or to enable library patrons to express themselves or create a diversity of views.

The use of the Equipment shall be consistent with the purpose of the Library, which include:

- To serve as an information resource for library patrons;
- To increase access to information and services by library patrons;
- To make useful and practical information available to library patrons; and
- To facilitate research, learning and recreational pursuits by library patrons.

In accordance with these purposes, the Library has developed policy and procedures for use of the Equipment ("Policy"). By signing this Policy, a library patron agrees to abide by these policies and procedures when using the Equipment:

1. **Administration.** The Library Director or his or her designee is responsible for administering this Policy. No library patron shall have a right to use the Equipment by virtue of this Policy.
2. **Certain Uses Prohibited.** Regardless of viewpoint, certain uses of the Equipment are prohibited and violate this Policy:
 - (a) Printing any object that is unlawful, threatening, abusive, tortuous, obscene, and racially, ethnically or otherwise objectionable;
 - (b) Printing any object that is intended to physically harm, or attempt to harm, an animal or person in any way;
 - (c) Printing any object that infringes upon a patent, trademark, trade secret, copyright or other proprietary rights of any party unless consent from the rights-owner has been obtained; The Copyright law of the United States governs the making of photocopies or other reproductions of copyrighted material. The Library reserves the right to deny a library patron's use of the Equipment if, in his or her judgment, use of the Equipment would violate Copyright law.
 - (d) Printing any object or any part of an object that is regulated or requires a license to use or carry unless such person has the requisite license to use or carry the object printed.

3. **Usage Subject to Refusal or Revocation.** The Equipment is provided to further the purposes of the Library and not as a benefit to a library patron. In accordance with this Policy, including the stated purposes herein, the Library Director may refuse a library patron's request to use the Equipment at any time. Failure to abide by the Policy may result in revocation of the library patron's library use privileges.

4. **Agreement.** By signing this Policy, I indicate that I understand the terms of this Policy and agree to abide by this Policy when using the Equipment.

Printed Name*

Signature

Date

Parent or Legal Guardian's Printed Name*

Parent or Legal Guardian's Signature

Date

** A parent or Legal Guardian's signature is required if a library patron is under 18 years of age.*

Disclaimer: While the Library and the Library Director make every effort to oversee the use of the Equipment, usage of the Equipment is not under the direction or control of the Library, the Library Director or the City of Saginaw. Neither the Library nor the City is responsible for any object created with the use of the Equipment, including any harm or injury incurred as a result of any usage of the Equipment.

Lessons Learned & Great Experiences

[www.flickr.com/photos/saginawpubliclibrary](https://www.flickr.com/photos/saginawpubliclibrary/8594318497/in/set-72157633380518269)

Academic Libraries x Youth Jumpstart Gra x Mentor Up x March 23, 2013 3D P x

https://www.flickr.com/photos/saginawpubliclibrary/8594318497/in/set-72157633380518269

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Saginaw Public Library

March 23, 2013 3D Printer Presentation

Audience members looking at the library's Solidoodle Gen2 3D printer printing an egg with red filament.

101 September 23, 2012

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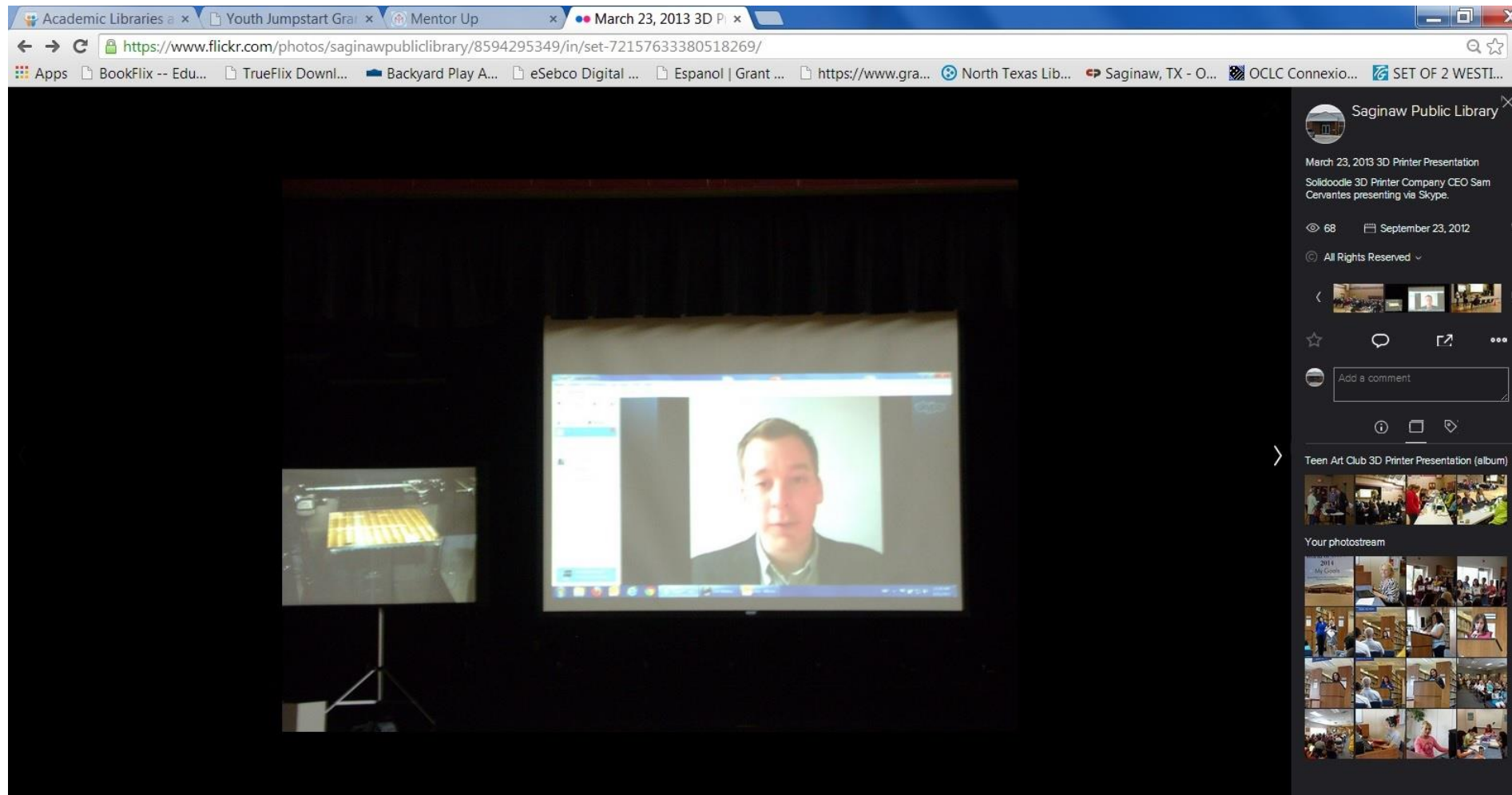
Add a comment

Teen Art Club 3D Printer Presentation (album)

Your photostream

Lessons Learned & Great Experiences

www.flickr.com/saginawpubliclibrary



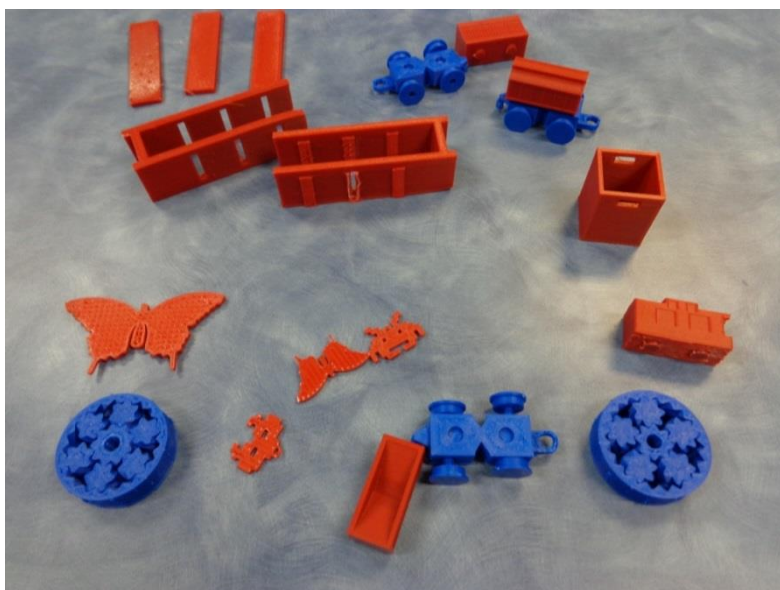
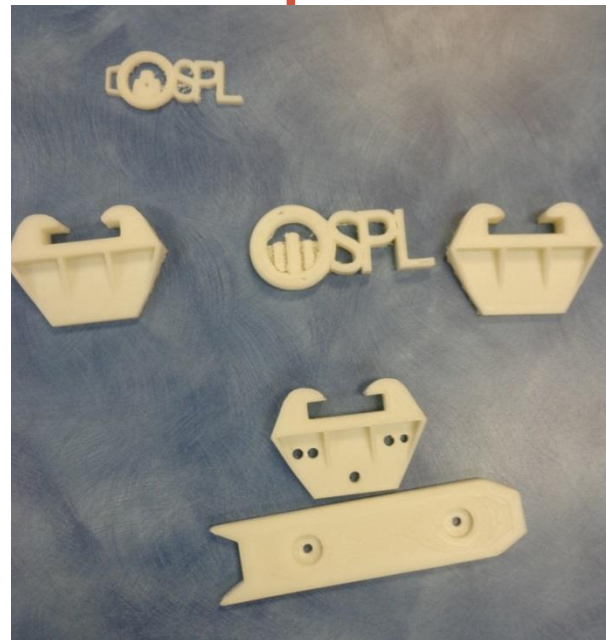
Lessons Learned & Great Experiences



Lessons Learned & Great Experiences



Lessons Learned & Great Experiences



Lessons Learned & Great Experiences



Photo includes Thor Bahnmler (Left) and Jonathan Roosa (Right)

The End

Fun Further Reading for All Ages...

www.leothemakerprince.com



You can purchase LEO the Maker Prince from:

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O'Reilly

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About the book

Carla had wanted to become an artist when she grew up. She became an accountant instead. Then Carla's calm life of numbers and "sense" was upended. She